NOVEMBER/DECEMBER 2025

FSC41/CSC41 — RELATIONAL DATABASE MANAGEMENT SYSTEMS

Shanmuga Industries Arts & Science College
T.V.Malai

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define database.
2. What is a schema?
3. List the aggregate functions in SQL.
4. Define a view.
5. What are ACID properties?
6. Differentiate between 2NF and 3NF.
7. State the purpose of PL/SQL.
8. List any two physical storage media.
9. State any two attributes of an implicit cursor.
10. Define exception handling in PL/SQL.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the advantages of using databases over file systems.

Or

(b) Write short notes on database administrators and their roles.

12. (a) Write a SQL query to display the highest salary from the Employee table.

Or

(b) Illustrate the E-R diagram for a Hospital Management System.

13. (a) Discuss transaction states with a neat diagram.

Or

(b) Illustrate 3NF with a suitable example.

14. (a) Explain the organization of records in files with examples.

Or

(b) Write a PL/SQL program to calculate the square of a number.

15. (a) Explain the use of explicit cursor attributes with examples.

Or

(b) Discuss the role of triggers in maintaining database integrity.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Design a relational schema for a Library Management System.

17. Write SQL queries to demonstrate INSERT, UPDATE, and DELETE operations.

18. Evaluate the importance of concurrency control in multi-user databases.

19. Design a PL/SQL block to check whether a given number is prime.

20. Construct a PL/SQL program using explicit cursor to display employee details.

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